Pulsar™

ESV 8+ / 11+ / 14+ / 22+
EB 22 / EB 22XLA

manuel d'utilisation

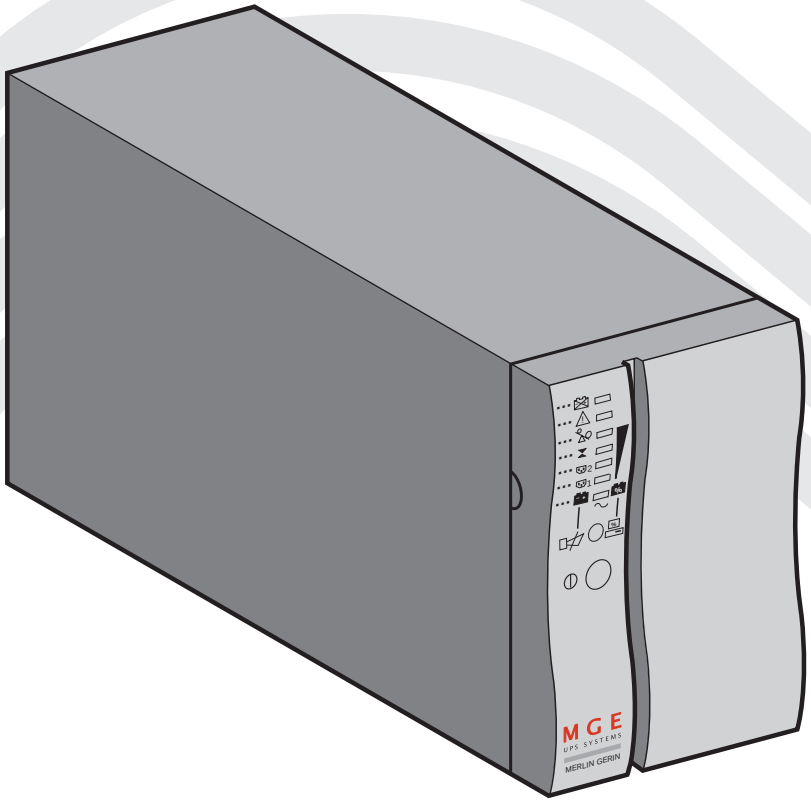
user manual

Bedienungsanleitung

manuale d'istruzione

manual de instrucciones

gebruikershandleiding



MGE
UPS SYSTEMS
MERLIN GERIN

Madame, Monsieur,

Nous vous invitons à lire ce manuel en souhaitant qu'il vous apporte tous les éléments nécessaires à l'installation et à l'utilisation de votre onduleur **Pulsar ESV +.**

Nous restons à votre entière disposition pour toute information complémentaire relative à une configuration plus spécifique, et nous vous prions d'agréer, Madame, Monsieur, nos sentiments les meilleurs.

MGE UPS SYSTEMS

Sehr geehrte Anwender,

diese Anleitung enthält alle Informationen zur Installation und Bedienung Ihrer **Pulsar ESV +** USV-Anlage.

Für Fragen oder Anregungen zu dieser Bedienungsanleitung stehen wir Ihnen jederzeit gerne zur Verfügung.

Mit freundlichem Gruß,

MGE UPS SYSTEMS

Señores,

Les invitamos a leer este manual y deseamos que les proporcione todos los elementos necesarios para la instalación y utilización de su SAI **Pulsar ESV +.**

Quedamos a su entera disposición para toda información suplementaria relativa a una configuración más específica.

Atentamente, les saluda,

MGE UPS SYSTEMS

Dear Sir or Madam,

We would like to draw your attention to this manual which has been prepared to provide you with all the necessary information concerning the installation of your **Pulsar ESV +.**

We are entirely at your disposal should you require any further information.

Yours faithfully,

MGE UPS SYSTEMS

Gentili signori,

Noi vi invitiamo a leggere questo manuale sperando che vi apporterà tutti gli elementi necessari per l'installazione e l'utilizzazione del vostro inverter **Pulsar ESV +.**

Noi rimaniamo a vostra completa disposizione per qualsiasi informazione complementare relativa ad una configurazione più specifica e vi preghiamo gradire in nostri distinti saluti.

MGE UPS SYSTEMS

Geachte Heer, Mevrouw,

Deze handleiding bevat alle nodige informatie voor het installeren en het gebruik van uw UPS **Pulsar ESV +** en wij raden u aan haar zorgvuldig te lezen.

Wij staan geheel ter uwer beschikking voor alle verdere informatie over meer specifieke configuraties.

Hoogachtend,

MGE UPS SYSTEMS

FRANCAIS

consignes de sécurité Pulsar

c **Pulsar** peut être utilisé par toute personne, sans formation préalable ;
c **danger** : risque d'électrocution, même avec **Pulsar** déconnecté du réseau électrique. La tension peut être présente en sortie de l'appareil, **Pulsar** pouvant fonctionner sur sa batterie. Pour toute intervention de maintenance nécessitant l'ouverture de l'appareil, les pôles + et – de la batterie doivent être déconnectés (par les connecteurs rapides placés au plus près de la batterie) ;
c **présence de tensions dangereuse à l'intérieur de Pulsar. L'ouverture de Pulsar doit être effectuée par le personnel qualifié ;**
c **relier impérativement Pulsar à la terre à l'aide d'une prise de courant 2 pôles plus terre (2P + T) ;**
c s'assurer, lors de l'installation de **Pulsar**, que la somme des courants de fuite de **Pulsar** et des appareils qu'il alimente ne dépasse pas 3,5mA ;
c ne pas placer **Pulsar** à proximité de liquide, ou dans un environnement d'humidité excessive ;
c ne pas laisser pénétrer de liquide ou d'objet étranger à l'intérieur de **Pulsar** ;
c ne pas obstruer les grilles d'aération en face avant, arrière ou sur les côtés de **Pulsar** ;
c ne pas brancher d'appareils ménagers (sèche cheveux, aspirateur,…) sur **Pulsar** ;
c ne pas placer **Pulsar** directement au soleil ou à proximité d'une source de chaleur ;
c la prise de courant où **Pulsar** est raccordé doit être située à proximité de **Pulsar,** et facilement accessible. La séparation de la source primaire s'effectue en débranchant le cordon d'alimentation de **Pulsar** ;
c si **Pulsar** doit rester hors tension pendant une longue durée, il est conseillé, environ une fois par mois, de le remettre sous tension pendant une durée de 24 heures, afin de recharger sa batterie sous peine de dégradation irréversible de celle-ci ;
c en cas de stockage avant sa mise en service, placer **Pulsar** dans un endroit à l'abri de l'humidité ;
c températures extrêmes de stockage : –20°C à +45°C ;
c concernant le rebut des emballages, veuillez vous conformer aux dispositions légales en vigueur.

consignes de sécurité batterie

c **Pulsar** contient des batteries au plomb étanche dont le rebut doit être en conformité avec la législation en vigueur ;
c ne pas incinérer les éléments batterie, ils peuvent exploser ;
c ne pas ouvrir ou abimer les éléments batterie, une fuite d'électrolyte serait dangereuse pour la peau et les yeux ;
c une batterie présente un risque d'électrocution et un courant de court-circuit élevé. Les précautions suivantes doivent être prises pour toute intervention sur les éléments batterie :
v ôter des mains montres, bagues, alliances, bracelets ou tout autres objets métalliques,
v utiliser des outils dont le manche est isolé;
c lors du remplacement de la batterie, utiliser le même nombre et le même type d'éléments batterie :
v **Pulsar ESV 8+ / 11+ / 14+ / 22+** : 12V - 7,2Ah,
v **Pulsar EB 22 / EB 22XLA** : 6V - 12Ah ;
c n'hésitez pas à contacter notre service après-vente.

ENGLISH

Pulsar safety rules

c this equipment can be operated by any individual, with no previous training;
c **attention**: risk of electric shock, even with unit disconnected from utility power source. Hazardous voltage still may be present through operation from battery. The battery supply should be disconnected at the plus and minus poles using the quick connectors of the battery when maintenance or service work inside the UPS is necessary;
c **the UPS contains voltages which are potentially hazardous. All repairs should be performed by qualified service personnel;**
c **do not attempt to power the UPS from any receptacle other than a 2-pole 3-wire grounded receptacle;**
c during the installation of this equipment it should be assured that the sum of the leakage currents of the UPS and the connected loads does not exceed 3.5mA;
c do not place **Pulsar** near water or in environment of excessive humidity;
c do not allow liquids or any foreign objects to get inside **Pulsar**;
c do not block air vents in front, in the back or on the sides of **Pulsar**;
c do not plug household appliances such as hair dryers to **Pulsar** receptacles;
c do not place **Pulsar** under direct sunshine or close to heat-emitting source;
c the mains socket-outlet shall be near the equipment and easily accessible. To isolate **Pulsar** from AC input, remove the plug from the mains outlet;
c if **Pulsar** is to be stored for a long time, it is recommended to recharge the batteries (by connecting the utility power source to **Pulsar**, switch "ON" or "OFF"), once a month for 24 hours to avoid a full batteries discharge;
c prior to installation, store **Pulsar** in a dry location;
c storage temperatures must be between: –20°C and +45°C;
c please dispose of the packaging in accordance with the applicable legislation.

battery safety rules

c **Pulsar** contains batteries that should be disposed of or recycled in accordance with the applicable laws;
c do not incinerate batteries, they may explode;
c do not open or mutilate the battery or batteries, released electrolyte is harmful to the skin and eyes;
c a battery can present a risk of electric shock and high short circuit current.
The following precautions should be observed when working with batteries:
v remove watches, rings or other metal objects,
v use tools with insulated handles;
c when replacing the batteries, use the same number and the following type of batteries:
v **Pulsar ESV 8+ / 11+ / 14+ / 22+**: 12V - 7,2Ah,
v **Pulsar EB 22 / EB 22XLA**: 6V - 12Ah;
c don't hesitate to contact our after sales department.

DEUTSCH

sicherheitshinweise Pulsar

c Problemlose Bedienung, ohne Vorkenntnisse;
c **Vorsicht**: Gefahr durch elektrischen Schlag. Auch nach Trennung vom Netz werden Teile der USV von der batterie gespeift und führen gefährliche Spannung; Bei Instandhaltungsarbeiten ist daher die Versorgung durch die Batterie mittels der Steckverbinder in beiden Polen zu unterbrechen;
c **Arbeiten, die das Öffnen der Anlage notwendin machen, dürfen nur von Elektrofachpersonal durchgeführt werden;**
c **die Pulsar USV-Anlage darf nur eine geerdete Netzsteckdose (2 pol. + Erde) angeschlossen werden;**
c bei der Installation des Gerätes ist darauf zu achten, das die Summe der Ableitströme der USV und der angeschlossenen Verbraucher den Maximalwert von 3,5mA nicht überschreiten;
c stellen Sie den **Pulsar** nicht in Räumen mit hoher Luftfeuchtigkeit auf;
c Flüssigkeiten oder Gegenstände dürfen nicht in das Innere der **Pulsar** gelangen;
c den Lufteintritt auf der Rückseite des **Pulsar** nicht blockieren;
c keine elektrischen haushaltsgeräte (z.B. Föhn, Staubsauger) an den **Pulsar** anschließen;
c vermeiden Sie eine Aufstellung des **Pulsar** neben einer Wärmequelle;
c setzen Sie den **Pulsar** nicht der direkten Sonneneinstrahlung aus;
c die Steckdose muß nahe dem Gerät angebracht und leicht zugänglich sein.
Zur Trennung vom Netz, **Pulsar** ausschalten und das Netzkabel aus der Netzsteckdose herausziehen;
c wird der **Pulsar** über längere Zeit außer Betrieb genommen bzw. gelagert, so ist die Anlage einmal im Monat für 24 Stunden an das Netz anzuschließen, um eine Tiefentladung der Batterie verneiden;
c lagern Sie den **Pulsar** vor der Inbetriebnahme nitch in feuchter Umgebung;
c äußerste Lagertemperaturen: –20°C bis +45°C;
c Verpackungsabfalls ist entsprechend den gesetzlichen Bestimmungen vorzunehmen.

sicherheitshinweise Batterie

c die in dem **Pulsar** integrierten verschlossenen, wartungsfreien Bleibatterien sind bei Austausch, unter Berücksichtigung der entsprechenden Gesetze zu entsorgen;
c werfen Sie ausgetauschte Batterien niemals ins Feuer, da sie explodieren könnten ;
c öffnen oder beschädigen Sie nicht die Batterien, auslaufendes Elektrolyt ist schädlich für Haut und Augen;
c bei Arbeiten an den Batterien besteht die Gefahr eines elektrischen Schlages und sehr hoher Kurzschlußströme:
v Traghen Sie keine Uhren, Ringe oder andere metallische Objekte,
v Verwenden Sie nur Werkzeug mit isolierten Griffen;
c verwenden Sie bei einem Batterietausch, ausschließlich die gleice Anzahl der folgenden Batterietypen:
v **Pulsar ESV 8+ / 11+ / 14+ / 22+**: 12V - 7,2Ah,
v **Pulsar EB 22 / EB 22XLA**: 6V - 12Ah;
c Setzen Sie sich mit unserem Kundendienst in Verbindung, wir stehen jederzeit für Sie bereit.

Vorsicht - Gefahr durch elektrischen Schlag: Der Batteriestromkreis ist nicht von der Eingangsspannung isoliert, zwischen Batterieklemmen und Masse kann eine gefährliche Spannung anliegen. Vor Berührung auf Spannungsfreiheit prüfen!
Vorsicht - Gefahr durch elektrischen Schlag: Auch nach Trennung von der Netzeingangs-spannung werden Teile innerhalb der USV von der Batterie gespeist und führen eine gefährliche Spannung. Bei Instandhaltungs-arbeiten ist die Versorgung durch die Batterie zu unterbrechen.

ITALIANO

consegne di sicurezza Pulsar

c **Pulsar** può essere utilizzato da chiunque, senza previa formazione;
c **rischio**: rischio di elettrocuzione, anche se **Pulsar** staccato dalla rete elettrica. La tensione può sempre essere presente all'uscita dell'apparecchio, avendo **Pulsar** la possibilità di funzionare sulla sua batteria propria. Per qualsiasi intervento di manutenzione che richiede l'apertura dell'apparecchio, i poli + e – della batteria devono essere sconnessi (tramite i connettori rapidi piazzati il più vicino possibile alla batteria);
c presenza di tensioni pericolose all'interno di Pulsar. L'apertura di Pulsar deve essere effettuata da una persona qualificata;
c **collegare iperativamente Pulsar a tierra tramite una presa di corrente 2 poli più terra (2P+T);**
c assicurarsi, al momento dell'installazione di **Pulsar**, che la somma delle correnti di fuga di **Pulsar** e degli apparecchi che esso alimenta non sorpassi 3,5mA;
c non mettere **Pulsar** a prossimità di liquidi, o in un ambiente troppo umido;
c non lasciare penetrare liquidi o oggetti estranei all'interno di **Pulsar**;
c non ostruire le griglie di aerazione sulla faccia posteriore o sui lati di **Pulsar**;
c non collegare elttrodomestici (asciugapelli, aspirapolvero)... su **Pulsar**;
c non mettere **Pulsar** direttamente al sole o a prossimità di una fonte di calore;
c la presa di alimentazione di **Pulsar** dovrà trovarsi a prossimità e rimanere facilmente accessibile. La separazione della fonte primaria si effettua staccando il cordone di alimentazione di **Pulsar**;
c se **Pulsar** deve rimanere fuori tensione durante un lungo periodo, è consigliato, circa una volta al mese, di rimetterlo sotto tensione durante 24 ore per ricaricare la batteria, altrimenti questa si potrebbe degradare in modo irreversibile;
c in caso di stoccaggio prima della messa in servizio, piazzare **Pulsar** in un luogo riparato d'all'umidità;
c temperature estreme di stoccagio: –20°C a +45°C;
c per lo smaltimento degli imballagi, rispettare le normative in vigore.

consegne di sicurezza batteria

c **Pulsar** contiene batterie al piombo ermetico che quando vanno ai rifiuti devono essere in conformità con la legislazione vigent;
c non incenerire gli elementi batteria, potrebbero esplodere;
c non aprire o rovinare gli elementi batteria, una perdita di elettrolito potrebbe essere pericolosa per la pelle o gli occhi;
c la batteria presenta un rischio di elettrocuzione ed una corrente di cortocircuito elevata.
Le presenti precauzioni sono da osservare per qualsiasi intervento sugli elementi batteria:
v togliere orologio, anelli, fede, braccialetti o tutt'altro oggetto metallico dalle mani,
v utilizzare utensili con manico isolato;
c al momento della sostituzione della batteria, utilizzare lo stesso numero e lo stesso tipo di elementi batteria:
v **Pulsar ESV 8+ / 11+ / 14+ / 22+** : 12V - 7,2Ah,
v **Pulsar EB 22 / EB 22XLA** : 6V - 12Ah;
c Non esitate a prendere contatto con il nostro servizio assistenza.

ESPAÑOL

consignas de seguridad Pulsar

c **Pulsar** puede ser utilizado por toda persona, sin formación previa;
c **peligro:** riesgo de electrocución, incluso si **Pulsar** está desconectado de la red eléctrica. La tensión puede estar presente a la salida del aparato, ya que **Pulsar** puede funcionar con su batería. Para toda intervención de mantenimiento que requiera abrir el aparato, los polos + y – de la batería deben ser desconectados (mediante los conectores rápidos situados lo más cerca posible de la batería);
c presencia de tensiones peligrosas al interior de Pulsar. La apertura de Pulsar debe ser efectuada por una persona competente;
c unir imperativamente Pulsar a la tierra mediante un enchufe de 2 polos y tierra (2P+T);
c asegurarse, durante la instalación de **Pulsar**, que la suma de las corrientes de escape de **Pulsar** y de los aparatos que éste alimenta no supere 3,5mA;
c no se coloque **Pulsar** cerca de líquidos, o en un ambiente con demasiada humedad;
c no dejar penetrar líquidos o cualquier objeto extraño en el interior de **Pulsar**;
c no obstruir las rejillas de ventilación en las caras posterior y laterales de **Pulsar**;
c no enchufar aparatos electrodomésticos (secador, aspirador...) en **Pulsar**;
c no se coloque **Pulsar** directamente bajo el sol o cerca de una fuente de calor;
c el enchufe de alimentación de **Pulsar** deberá encontrarse cerca de éste y ser de fácil acceso. La separación de la fuente primaria se efectúa desconectando el cordón de alimentación de **Pulsar**;
c si **Pulsar** debiera permanecer fuera de tensión durante largo tiempo, se aconseja volver a ponerlo bajo tensión todos los meses, durante 24 horas, para recargar su batería y evitar la degradación irreversible de ésta;
c en caso de almacenamiento antes de su puesta en servicio, colocar **Pulsar** en un lugar protegido de la humedad;
c temperaturas extremas de almacenamiento: –20°C a +45°C;
c en lo referente al desecho de los embalajes, favor de conformarse con las disposiciones legales vigentes.

consignas de seguridad batería

c **Pulsar** contiene baterías de plomo estancas, cuyos residuos deben cumplir con las leyes vigentes;
c no incinerar los elementos batería, pueden explotar;
c no abrir o deteriorar los elementos batería, un escape de electrolito sería peligroso para la piel y los ojos;
c una batería presenta un riesgo de electrocución y una corriente de cortocircuito elevada.
Deben ser tomadas las siguientes precauciones en toda intervención con los elementos batería:
v retirar de las manos relojes, anillos, alianzas, pulseras o todo otro objeto metálico,
v utilizar herramientas con mango aislado;
c al reemplazar la batería, utilizar el mismo número y el mismo tipo de elementos batería:
v **Pulsar ESV 8+ / 11+ / 14+ / 22+** : 12V - 7,2Ah,
v **Pulsar EB 22 / EB 22XLA** : 6V - 12Ah;
c No dude en ponerse en contacto con nuestro servicio posventa.

PORTUGUËS

regras de segurança Pulsar

c **Pulsar** pode ser utilizado por qualquer pessoa, sem formação prévia;
c **perigo:** risco de electrocussão, mesmo que **Pulsar** esteja desligado da rede eléctrica. A tensão pode estar presente à saida do aparelho, pois este pode funcionar com bateria. Para qualquer intervenção de manutenção que exigir a abertura do aparelho, os polos + e – da bateria devem ser desligados (pelos conectores rápidos situados mais próximos da bateria);
c perigo: presença de tensões perigosas no interior do Pulsar. A abertura do Pulsar só deve ser realizada por pessoal qualificado;
c ligar imperativamente o Pulsar à terra por meio de uma tomada de corrente 2 polos mais terra (2P + T);
c certificar-se, quando da instalação de **Pulsar**, que a soma das correntes de fuga de **Pulsar** e dos aparelhos que este alimenta, não ultrapassa 3,5mA;
c não colocar o **Pulsar** na proximidade de líquidos ou em ambiente excessivamente úmido;
c não deixar penetrar líquido ou objeto estranho no interior do **Pulsar**;
c não obstruir as grades de ventilação da frente de trás ou dos lados do **Pulsar**;
c não ligar aparelhos domésticos (secador de cabelos, aspirador…) ao **Pulsar**;
c não colocar o **Pulsar** diretamente ao sol ou na proximidade de uma fonte de calor;
c a tomada de alimentação do **Pulsar** deve estar situada na proximidade do mesmo e permanecer facilmente accessível. A separação da fonte primária de energia se efetua por desacoplament o cordão de alimentação do **Pulsar**;
c caso o **Pulsar** deva permanecer desligado durante um longo período, aconselha-se, uma vez por mês aproximadamente, recolocar o mesmo sob tensão durante 24 horas, a fim de recarregar a bateria, sem o quê a mesma poderá se deteriorar de forma irreversível;
c **Pulsar** contém elementos de bateria com chumbo estanque, os quais quando jogados no lixo, devem conformar-se à legislação vigente;
c temperaturas limites de estocagem: –20°C a +45°C;
c para descartar as embalagens, conformar-se com as disposições legais em vigor.

regras de segurança bateria

c em caso de estocagem antes de sua colocação em serviço, guardar o **Pulsar** em local ao abrigo da umidade;
c não incinerar os elementos de bateria, estes podem explodir;
c não abrir ou destruir os elementos de bateria, um derramamento de electrólito seria perigoso para a pele e para os olhos;
c uma bateria apresenta um risco de electrocussão e uma corrente de curto-circuito elevada.
As precauções seguintes devem ser tomadas para qualquer intervenção sobre os elementos de bateria:
v retirar das mãos relógios, anéis, alianças, braceletes ou qualquer outro objecto metálico,
v utilizar instrumentos providos de cabo isolado;
c por ocasião da substituição da bateria, utilizar o mesmo número e o mesmo tipo de elementos de bateria:
v **Pulsar ESV 8+ / 11+ / 14+ / 22+** : 12V - 7,2Ah,
v **Pulsar EB 22 / EB 22XLA** : 6V - 12Ah;
c Não hesite em contactar o nosso serviço após-venda.

DANSK

sikkerhedsforskrifter Pulsar

c **Pulsar** kan benyttes af alle uden speciel faglig uddannelse;
c faren består i mulige strømstød, der kan forekomme, selv når apparatet ikke længere er tilsluttet strømnettet Der kan opstå spænding ved udgangen, da apparatets batterier stadigvæk er i funktion. Ved alle arbejder med vedligeholdelse, som kræver en åbning af apparatet må batteriets plus/minuspoler være afbrudt. Benyt hertil hurtigafbryderen, der bør anbringes så nært som muligt ved batteriet;
c fare ! Farlige interne spændinger forekommer i Pulsar. Åbning af Pulsar må kun foretages af fagfolk;
c Pulsar skal udstyres med en jordforbindelse, man anvender et stik med 2 poler og en jordforbindelse (2P + J);
c ved installering af **Pulsar** bør man sikre sig at lækstrømmen fra **Pulsar**-apparatet og de tilspændte apparater ikke overstiger 3,5mA;
c **Pulsar** må ikke benyttes i nærheden af vædsker eller i en meget fugtig omgivelse;
c pas på at væsker eller fremmede genstande ikke trænger ind i apparatet;
c sørg for at ventileringsgitrene aldrig er tilstoppede ! foran, bagved eller siderne af **Pulsar**;
c ingen elektriske apparater (hårtrørrer, støvsuger osv.) må tilsluttes **Pulsar**;
c **Pulsar** må ikke opstilles i stærkt sollys eller i nærheden af en varmekilde;
c forsyningsstikket til **Pulsar** skal findes i nærheden og være let tilgængeligt.
Strømmen afbrvdes ved af tage ledningen ud;
c hvis **Pulsar** ikke benytters genmem længere perioder, bør apparatet sættes under strøm i 24 timer ca, eengang om måneden. Batterierne risikerer ellers at blive totalt ødelagt !
c en eventuel oplagring af **Pulsar** inden benyttelsen må kun finde;
c sted i et tørt lokale med temperaturbegrænsinger mellem –20°C og +45°C;
c Hvad emballageaffaldet angår, bør De nøje følge de gaeldende lovbestemmelser på dette område.

sikkerhedsforskrifter batterier

c **Pulsar** er udstyret med vandtætte blybatterier. Ved tilintetgørelse af disse eller af batteriaffald må de af loven fastsatte regler overholdes;
c brænd aldrig gamle batterier. De kan eksplodere;
c man bør aldrig åbne gamle batterier. Der kan forekomme en elektrolytudstrømning, der kan betyde en fare for øjnene og for huden;
c et batteri er i stand til at give farlige strømstød og kortslutninger. De bør derfor altid respektere følgende sikkerhedsregler, før De begynder at arbejde med batterierne:
v fjern ur, ringe, armbånd og alle andre metalgenstande fra hænderne,
v benyt kun værktøj med isoleret håndtag;
c ved udskiftning af batteriet bør man altid sikre sig, at det nye batteri er af samme type og har det samme antal elementer som det gamle:
v **Pulsar ESV 8+ / 11+ / 14+ / 22+** : 12V - 7,2Ah,
v **Pulsar EB 22 / EB 22XLA** : 6V - 12Ah;
c De er altid velkommen til at kontakte vores serviceafdeling.

NEDERLANDS

veiligheidsvoorschriften Pulsar

c de **Pulsar** kan door iedereen worden gebruikt zonder speciale vooropleiding;
c **gevaar:** het risico van elektrokutie is aanwezig zelfs als de **Pulsar** niet op de netstroom is aangesloten. De uitgang van het apparaat kan onder spanning staan, aangezien **Pulsar** ook op batterijen funktioneert. Voor alle servicehandelingen waarbij het apparaat geopend moet worden, moeten de + en – polen van de batterij worden losgekoppeld (met behulp van de snelkoppelingen die zich zo dicht mogelijk bij de batterij moeten bevinden);
c **in de Pulsar is gevaarlijke spanning aanwezig. Daarom mag het apparaat uitsluitend door bevoegd personeel worden geopend;**
c **de Pulsar moet geaard worden door middel van een twee-polige kontaktstop met aarde (2P + A);**
c zorg er bij het installeren van de **Pulsar** voor dat de som van de lekstromen van de **Pulsar** en de aangesloten apparaten niet hoger is dan 3,5mA;
c plaats de **Pulsar** niet in de nabijheid van vloeistof, of in een erg vochtige omgeving;
c laat geen vloeistof of vreemde voorwerpen in de **Pulsar** binnendringen;
c zorg dat de ontluchtingsroosters van de **Pulsar** aan voor-, achter- en zijkanten niet verstopt raken;
c sluit geen huishoudelijke apparaten op de **Pulsar** aan (haardroger, stofzuiger, enz.);
c plaats de **Pulsar** niet direct in de zon of in de nabijheid van een warmtebron;
c het stopkontakt waarop de **Pulsar** wordt aangesloten moet zich in de nabijheid van het apparaat bevinden en goed toegankelijk zijn. De primaire stroomvoorziening wordt onderbroken door het netsnoer van de **Pulsar** uit het stopkontakt te trekken;
c als de **Pulsar** lange tijd niet gebruikt wordt, moet ongeveer één keer per maand het apparaat gedurende 24 uur worden ingeschakeld om de batterij op te laden. Als dit niet gebeurt, kan de batterij onherstelbaar beschadigd worden;
c als het apparaat voor het opstarten wordt opgeslagen, dient dit te gebeuren in een vochtvrije ruimte;
c uiterste opslagtemperaturen: –20°C tot +45°C;
c Voor het weggooien van de verpakkingen dient men de geldende wettelijke voorschriften in acht te nemen.

veiligheidsvoorschriften batterij

c de **Pulsar** bevat onderhoudsvrije loodbatterijen die uitsluitend mogen worden weggegooid overeenkomstig de geldende wetgeving;
c de batterij-elementen mogen niet verbrand worden, aangezien zij kunnen ontploffen;
c de batterij-elementen mogen niet opengemaakt of beschadigd worden, aangezien de elektrolyt gevaarlijk is voor huid en ogen;
c bij het gebruik van een batterij moet rekening worden gehouden met het risico van elektrokutie en een hoge kortsluitstroom. De volgende voorzorgsmaatregelen moeten worden getroffen voordat er werkzaamheden aan de batterij-elementen worden uitgevoerd:
v verwijder horloges, ringen, trouwringen, armbanden of elk ander metalen voorwerp van de handen,
v gebruik uitsluitend gereedschap met geïsoleerd handvat;
c bij het verwisselen van de batterij, moet hetzelfde aantal en hetzelfde type batterij-elementen worden gebruikt:
v **Pulsar ESV 8+ / 11+ / 14+ / 22+** : 12V - 7,2Ah,
v **Pulsar EB 22 / EB 22XLA** : 6V - 12Ah;
c Aarzelt u niet contact op te nemen met onze servicedienst.

NORSK

sikkerhedsforskrifter Pulsar

c vekselretteren **Pulsar** kan brukes av alle uten forutgående opplæring;
c fare: risiko for elektrisk støt, selv når **Pulsar** er frakoblet strømnettet. Siden apparatet kan fungere på eget batteri, kan det ha en viss utgangsspenning selv når det er frakoblet. Dersom det er nødvendig å åpne apparatet for vedlikeholdsinngrep, må batteripolene + og – være frakoblet (hurtigkoblingene nærmest batteriet);
c advarsel: De interne spenningene i apparatet kan være farlige! Pulsar skal kun åpnes av kvalifisert personale;
c viktig: Pulsar skal ha jordforbindelse ved hjelp av en jordkontakt (2P + T);
c under installeringen må det sjekkes at den totale avledningsstrømmen fra **Pulsar** og enhetene den er koblet til, ikke overstiger 3,5mA;
c unngå å plassere apparatet i nærheten av væsker eller i et sterkt fuktig miljø;
c pass på at væsker eller fremmede gjenstander ikke trenger inn i apparatet;
c unngå å tette til lufteventilene på forsiden, på forsiden eller på baksiden av **Pulsar**;
c hulsholdningsmaskiner (hårtørrer, støvsuger,…) må ikke kobles til **Pulsar**;
c ikke plassér apparatet i sterkt sollys eller i nærheten av en varmekilde;
c stikkontakten som **Pulsar** skal kobles til, må være plassert i nærheten og skal være lett tilgjengelig. Adskillelse fra den primære strømkretsen skjer ved å koble ledningen fra **Pulsar**;
c dersom apparatet ikke brukes i lengre perioder, tilrådes det å kople det til strømnettet ca. én gang i måneden i 24 timer. Dermed opplades batteriet. Unnlater man å gjøre dette, kan batteriet ødelegges definitivt;
c lagres apparatet før bruk, må det plasseres på et tørt sted hvor;
c temperaturen ligger mellom –20°C og +45°C;
c Ved kasting av emballasje må gjeldende lovbestemmelser overholdes.

sikkerhedsforskrifter batterier

c **Pulsar** er utstyrt med batterier som inneholder vanntett bly. Kastes batteriene eller annet batteriavfall, må det skje i overensstemmelse med gjeldende lov;
c ikke kast batterielementene på varmen. De kan eksplodere;
c ikke åpne eller ødelegg batterielementene. Elektrolytisk lekkasje kan skade huden og øynene;
c batterier er forbundet med fare for elektrisk støt og høy kortslutningsstrøm.
Ta følgende forholdsregler ved ethvert inngrep på batterielementene:
v ta av armbåndsur, ringer, armbånd og andre metallgjenstander,
v bruk verktøy med isolert skaft;
c ved utskiftning av batteriet må du bruke samme antall og samme type batterielementer:
v **Pulsar ESV 8+ / 11+ / 14+ / 22+** : 12V - 7,2Ah,
v **Pulsar EB 22 / EB 22XLA** : 6V - 12Ah;
c Vennligst ta kontakt med vår kundeavdeling.

SUOMALAINEN

turvallisuusohjeet Pulsar

c Pulsaria voi käyttää kuka tahansa. Sen käyttö ei edellytä erityistä koulutusta;
c vaara: sähköiskun vaara on olemassa silloinkin, kun **Pulsar** ei ole kytkettynä sähköverkkoon. Sähkövirtaa saattaa esiintyä tällöinkin, koska **Pulsar** toimii myös akkuvirran avulla. Ennen laitteen avausta edellyttäviä huoltotoimenpiteitä on akun + – navat irrotettava (niiden kytkentä ja irrotus tapahtuu pikakytkimien avulla);
c varoitus: Pulsarin sisällä on vaarallisia jännitteitä. Pulsarin avauksen tulee suorittaa asiantunteva henkilökunta;
c Pulsarin etupuolella, takana tai reunoilla;
c Varmistakaa ennen **Pulsarin** asennusta, että **Pulsarin** ja siitä virtansa saavien laitteiden yhteenlaskettu virranhukka ei ylitä 3,5mA;
c alkää koskaan asettako **Pulsaria** ympäristöön, jossa se voisi joutua kosketuksiin nesteiden tai liiallisen kosteuden kanssa;
c älkää koskaan antako nesteiden tai vieraiden esineiden päästä **Pulsarin** sisälle;
c älkää koskaan peittäkö ilmanvaihtoristikkoa;
c älkää kytkekö kotitalouslaitteita (hiustenkuivaajaa, pölynimuria tms.) **Pulsarin**;
c älkää asettako laitetta suoraan auringonvaloon tai lämmölähteen lähelle;
c **Pulsarin** vertaliitin on syytä säilyttää **Pulsarin** lähettyvillä paikassa, josta se on helposti saatavilla. Virtaliittimen irrotus tapahtuu irrottamalla virtajohto **Pulsarista**;
c jos **Pulsar** joutuu pitkään olemaan kytkemättömänä, suosittelemme sen kytkemistä noin kerran kuukaudessa 24 tunnin ajaksi, patteriston uudelleen lataamiseksi. Muutoin se voisi turmeltua peruuntumattomasti;
c mikäli ette ota laitetta heti käyttöön, on se varastoitava kosteudelta suojattuun paikkaan;
c ei alle –20°C tai yli +45°C lämpötilaan;
c pakkausjätteiden osalta pyydetään noudattamaan voimassa olevia säädöksiä.

turvallisuusohjeet

c **Pulsar** sisältää patterielementtejä vedenpitävästä lyijystä. Niiden hävittämisessä on noudatettava voimassa olevaa lakia;
c akun osia ei tule hävittää polttamalla: ne saattavat räjähtää;
c älkää avatko tai vahingoittako akun osia, akkuhappovuoto on vaarallista iholle ja silmille;
c akun käsittelyyn liittyy merkittävä sähköiskun ja oikosulun vaara.
Akkua käsiteltäessä on aina suoritettava seuraavat varotoimenpiteet:
v kellot, sormukset, rannekkeet ja muut mahdolliset metalliesineet on riisuttava käsistä,
v on käytettävä vain työkaluja, joiden kahva on eristetty;
c akkua vaihdettaessa on käytettävä samaa määrää ja saman tyyppisiä akun elementteja kuin alkuperäisessä akussa:
v **Pulsar ESV 8+ / 11+ / 14+ / 22+** : 12V - 7,2Ah,
v **Pulsar EB 22 / EB 22XLA** : 6V - 12Ah;
c Älä epäröi ottaa yhteyttä asiakaspalveluumme.
.

SVENSK

säkerhetsföreskrifter Pulsar

c Pulsar kan användas av vem som helst, utan särskild utbildning;
c fara: risk för elektrisk stöt, även när **Pulsar** inte är nätansluten. Spänning kan finnas i apparatens utgång eftersom **Pulsar** kan fungera med batteriförsörjning. Vid alla servicearbeten som kräver öppning av apparaten skall batteriets + och – poler vara urkopplade (genom snabbkopplingarna som sitter närmast batteriet);
c varning: det finns farliga spänningar i Pulsar. Pulsars öppnande måste utföras av kvalificerad personal;
c Pulsars öppnade måste absolut kopplas till ett jordat uttag med en två-polig stick kontakt med jordpol (2P + J);
c kontrollera vid installationen av **Pulsar** att summan av läckströmmarna från **Pulsar** och de apparater som sköter dess strömförsörjning inte överskrider 3,5mA;
c placera aldrig **Pulsar** i en lokal med hög luftfuktighet eller där den kan komma i kontakt med vätska;
c låt aldrig vätska eller främmande föremål komma in **Pulsar**;
c täck aldrig för ventilationsgaller omedelbart bakom, framför eller vid sidan om **Pulsar**;
c anslut inte några elektriska husgeråd (hårtork, dammsugare) till **Pulsar**;
c placera aldrig **Pulsar** i direkt solljus eller i närheten av en värmekälla;
c **Pulsar** bör vara installerad i närheten av sin anslutningskontakt så att denna är lättåtkomlig. För att separera **Pulsar** från den primära strömkällan bortkopplas huvudledningen;
c om **Pulsar** inte skall användas under en längre tid rekommenderar vi att apparaten strömsätts ca 1 gång i månaden under minst ett dygn för uppladdning av batteriet. Om detta inte sker kan batteriet skadas definitivt;
c skall apparaten lagras före användning måste den förvaras i ett torrt utrymme;
c apparaten får ej utsättas för temperaturer under –20°C eller över +45°C;
c Angående kassering av emballage, följ gällande lagbestämmelser.

säkerhetsföreskrifter

c **Pulsar** har ett kapslat batteri med blyelement. Dessa får endast slängas i enlighet med gällande lag;
c bränn inte upp batterielementen, de kan explodera;
c öppna inte och förstör inte batterielementen, en elektrolytläcka skulle vara farlig för huden och ögonen;
c ett batteri utgör en risk för elektrisk stöt och en hög kortslutningsström.
Följande försiktighetsåtgärder bör vidtagas vid ingrepp på batteriet:
v ta bort från händerna klockor, ringar, armband och alla andra metallföremål,
v använd verktyg med isolerat skaft;
c vid byte av batteriet bör man använda samma antal och samma typ av batterielement:
v **Pulsar ESV 8+ / 11+ / 14+ / 22+** : 12V - 7,2Ah,
v **Pulsar EB 22 / EB 22XLA** : 6V - 12Ah;
c Tveka ej att kontakta vår Kundtjänst.

sommaire général / general contents / Gesamtes Inhaltsverzeichnis / sommario generale / sumario general / inhoudsopgave

découvrez Pulsar **3**
discover Pulsar
Beschreibung des Pulsar
scoprite il Pulsar
descubra Pulsar
ontdek Pulsar

français **9**
présentation / mise en service / exploitation

english **19**
presentation / getting started / operation

deutsch **29**
Installation / Betrieb

italiano **39**
messa in servizio / utilizzazione

español **49**
puesta en servicio / explotación

nederlands **59**
inbedrijfstellen / gebruiksaanwijzing

découvrez Pulsar **ESV 8+/ESV 11+/ESV 14+/ESV 22+ EB 22/EB 22XLA**

discover Pulsar **ESV 8+/ESV 11+/ESV 14+/ESV 22+ EB 22/EB 22XLA**

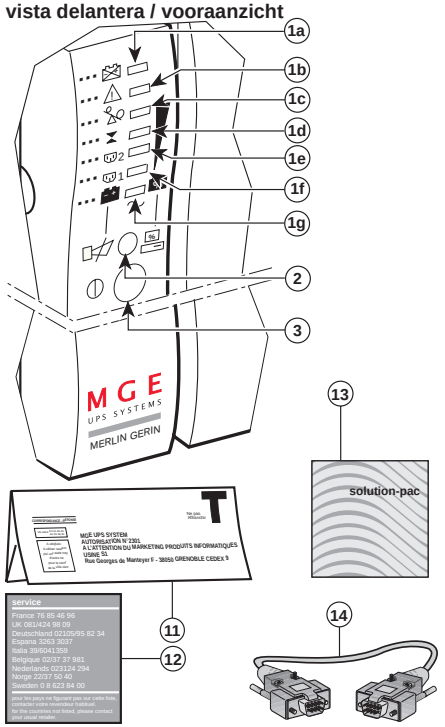
Beschreibung des Pulsar **ESV 8+/ESV 11+/ESV 14+/ESV 22+ EB 22/EB 22XLA**

scoprite il Pulsar **ESV 8+/ESV 11+/ESV 14+/ESV 22+ EB 22/EB 22XLA**

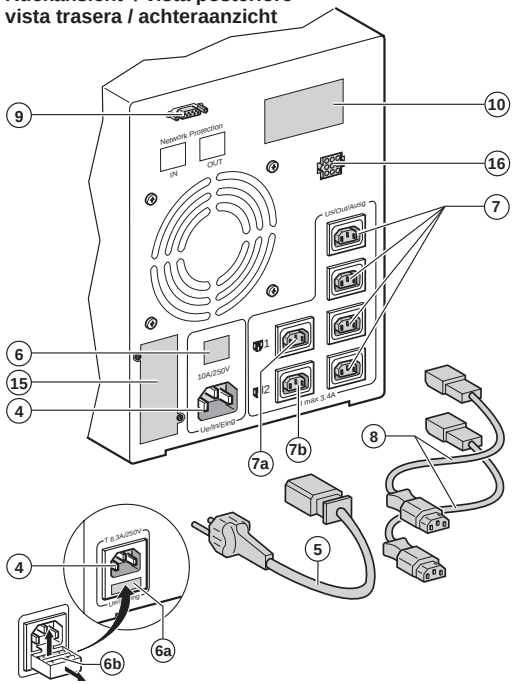
descubra Pulsar **ESV 8+/ESV 11+/ESV 14+/ESV 22+ EB 22/EB 22XLA**

ontdek Pulsar **ESV 8+/ESV 11+/ESV 14+/ESV 22+ EB 22/EB 22XLA**

vue avant / front view
Vorderansicht / vista anteriore
vista delantera / vooraanzicht

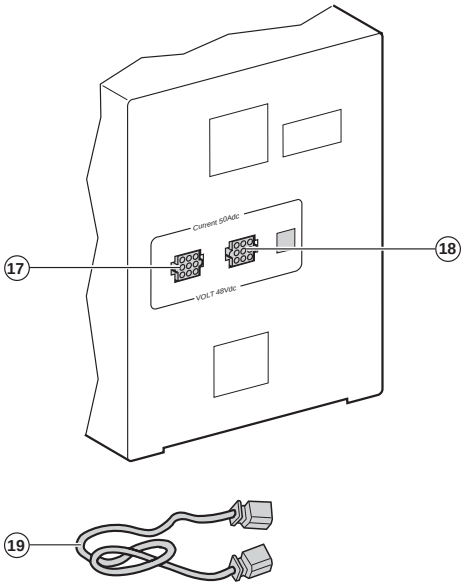


vue arrière ESV 8+/11+/14+/22+ / rear view
Rückansicht / vista posteriore
vista trasera / achteraanzicht



ESV 8+

vue arrière EB 22/EB 22XLA / rear view
Rückansicht / vista posteriore
vista trasera / achteraanzicht



légende des dessins page 3

- (1a) voyant jaune en clignotement rapide uniquement : défaut batterie,
- (1b) voyant jaune en clignotement rapide uniquement : défaut de l'appareil,
- (1c) voyant jaune en clignotement rapide uniquement : surcharge,
- (1d) voyant jaune en clignotement rapide uniquement : fonctionnement en mode "fader" ou "booster",
- (1e) voyant jaune en clignotement rapide uniquement : prise 2 non alimentée,
- (1f) voyant jaune en clignotement rapide uniquement : prise 1 non alimentée,
- (1g) voyant vert continu : fonctionnement sur réseau électrique d'alimentation, voyant vert clignotant : fonctionnement sur batterie,

key to diagrams page 3

- (1a) yellow indicator light flashing quickly only: battery fault,
- (1b) yellow indicator light flashing quickly only: device fault,
- (1c) yellow indicator light flashing quickly only: overload,
- (1d) yellow indicator light flashing quickly only: operating on "booster" or "fader" mode,
- (1e) yellow indicator light flashing quickly only: plug 2 not powered,
- (1f) yellow indicator light flashing quickly only: plug 1 not powered,
- (1g) green indicator light on continuously: operating on utility, green indicator light flashing: battery back-up time,

légende des dessins page 3 et 4

(2) bouton "fonction" : arrêt de l'alarme sonore ou mesure du taux de charge de l'utilisation (si réseau électrique présent),

(3) bouton "marche/arrêt",

(4) prise de raccordement du cordon du réseau d'alimentation,

(5) cordon de raccordement du réseau d'alimentation **(non fourni : utiliser le cordon qui alimente votre ordinateur)**,

(6) disjoncteur thermique 10A/250V pour Pulsar **ESV 11+**,
disjoncteur thermique 15A/250V pour Pulsar **ESV 14+**,
disjoncteur thermique 20A/250V pour Pulsar **ESV 22+**,

(6a) fusible d'entrée T 6,3A/250V pour **Pulsar ESV 8+**,

(6b) porte fusible,

(7) prises utilisation pour le raccordement de votre informatique alimentée par **Pulsar ESV** (2 pour ESV 8+) avec prises utilisation (7a) et (7b) commandables par Solution-Pac,

(8) 2 cordons CEE de raccordement de votre informatique sur **Pulsar ESV (fournis)**,

(9) connecteurs SUB-D 9 broches du port de communication,

(10) plaque d'identification,

(11) carte de garantie,

(12) étiquette "onduleur support",

(13) Solution-Pac CD-ROM,

(14) cordon série pour communication avec un PC,

(15) emplacement pour les cartes de communication optionnelle,

(16) connecteur (uniquement **Pulsar ESV 22+**) pour raccordement vers **Pulsar EB 22**,

(17) connecteur pour raccordement vers **Pulsar ESV 22+**,

(18) connecteur pour raccordement vers module d'extension batterie **Pulsar EB 22XLA**,

(19) cordon de raccordement batterie de **Pulsar ESV 22+** vers **Pulsar EB 22** ou **EB 22XLA**.

Nota :
Les voyants (1c) à (1f) indiquent le niveau de charge de la batterie (si réseau électrique présent) ou le temps restant d'autonomie (si réseau électrique absent).
Avec appui sur le bouton "fonction" (2) si réseau électrique présent, ils indiquent le niveau de charge de l'utilisation.

key to diagrams page 3 and 4

(2) "function" button: switches off audio warning device or measures load charge percentage (with utility power),

(3) "ON/OFF" switch,

(4) utility input receptacle,

(5) utility power connection **(not included, use computer cord)**,

(6) 10A/250V thermal circuit breaker for **Pulsar ESV 11+**,
15A/250V thermal circuit breaker for **Pulsar ESV 14+**,
20A/250V thermal circuit breaker for **Pulsar ESV 22+**,

(6a) input-power fuse receptable T 6.3A/250V for **Pulsar ESV 8+**,

(6b) fuse holder,

(7) output receptacles for connection of computer equipments to **Pulsar ESV** (2 for ESV 8+) with output switchable receptacles (7a) and (7b) by Solution-Pac,

(8) 2 EEC cords for connection of computer equipments to **Pulsar ESV (included)**,

(9) SUB-D 9 pins connectors communication port,

(10) identification plate,

(11) warranty card,

(12) "onduleur support" label,

(13) Solution-Pac CD-ROM,

(14) serial cable for communication with a PC,

(15) cover for optional communication cards,

(16) DC connector to **Pulsar EB 22**,

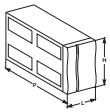
(17) DC connector to **Pulsar ESV 22+**,

(18) DC connector to additional **Pulsar EB 22XLA**,

(19) battery connection cord.

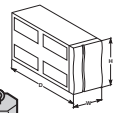
NB:
Indicator lights (1c) à (1f) indicate the charge level of the battery (if utility power present) or the remaining autonomy time (without utility power).
By pressing the button marked "function" (2) when utility power is present, they indicate the level of load charge.

caractéristiques

c **puissance de sortie :**				
	v **Pulsar ESV 8+** :	780VA/490W	v **Pulsar ESV 14+** :	1400VA/980W
	v **Pulsar ESV 11+** :	1080VA/700W	v **Pulsar ESV 22+** :	2200VA/1540W
c **réseau électrique d'alimentation :**				
v tension (V) : a	monophasée 184V à 264V **(*)**			
v fréquence (F) :	47Hz à 53Hz ou 57Hz à 63Hz			
c **batterie :**	**Pulsar ESV 8+** : 2 x 12V - 7,2Ah			
v type :	**Pulsar ESV 11+** : 3 x 12V - 7,2Ah			
	Pulsar ESV 14+ : 4 x 12V - 7,2Ah			
	Pulsar ESV 22+ : 8 x 6V - 12Ah			
	plomb étanche sans entretien			
attention : la durée de vie de la batterie (4 à 5 ans) décroît de moitié tous les 10°C au dessus de 25°C				
c **sortie utilisation en fonctionnement sur batterie :**				
v tension (V) : a /	monophasée 230V +5/-10% **(**)**			
v fréquence (F) :	50Hz ± 1%			
c **sortie utilisation en fonctionnement réseau présent :**				
v tension (V) :	voir "fonctionnement normal avec réseau électrique présent"			
v fréquence (F) :	47Hz à 53Hz ou 57Hz à 63Hz			
c **environnement :**				
v niveau de bruit : / a	≤ 40dBA en fonctionnement sur réseau			
/	≤ 45dBA en fonctionnement sur batterie			
v température de fonctionnement :	0 à 35°C			
v humidité relative :	0 à 90% sans condensation			
c **dimensions et masses :**	**Pulsar ESV 8+**		**Pulsar ESV 11+ / 14+ / 22+ / EB 22 / EB 22XLA**	
v hauteur H (mm) : 	178		248	
v largeur L (mm) :	140		172	
v profondeur P (mm) :	380		457	
v masse (kg) :	13,5		21/23/16/20/35	

(*) : seuils haut et bas ajustables par ESV Driver (CD-ROM : EMB/ESVPLUS/CONFIG)
(**) : ajustable de 200 à 240V par ESV Driver (CD-ROM : EMB/ESVPLUS/CONFIG)

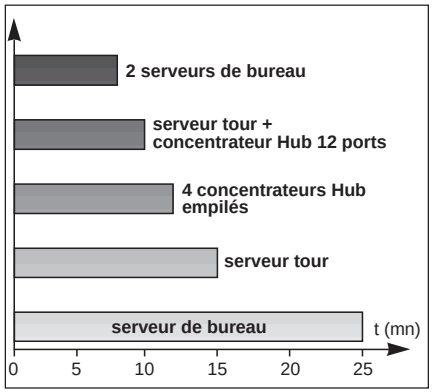
technical data

c **output power:**				
	v **Pulsar ESV 8+**:	780VA/490W	v **Pulsar ESV 14+**:	1400VA/980W
	v **Pulsar ESV 11+**:	1080VA/700W	v **Pulsar ESV 22+**:	2200VA/1540W
c **utility power source:**				
v voltage (V): a	184V to 264V single phase **(*)**			
v frequency (F):	47Hz to 53Hz or 57Hz to 63Hz			
c **battery:**				
v type:	**Pulsar ESV 8+**: 2 x 12V - 7.2Ah **Pulsar ESV 11+**: 3 x 12V - 7.2Ah **Pulsar ESV 14+**: 4 x 12V - 7.2Ah **Pulsar ESV 22+**: 8 x 6V - 12Ah maintenance free sealed lead-acid			
caution: battery life (4 or 5 years) is halved every 10°C above 25°C				
c **output specifications with load on battery:**				
v voltage (V): a /	single phase 230V +5/-10% **(**)**			
v frequency (F):	50Hz ± 1%			
c **output specifications with load on utility power:**				
v voltage (V):	see "normal operation with utility power present"			
v frequency (F):	47Hz to 53Hz or 57Hz to 63Hz			
c **environment:**				
v noise level: / a	≤ 40dBA for operation on utility power			
/	≤ 45dBA for battery backup time			
v operating temperature:	0 to 35°C			
v relative humidity:	0 to 90% no condensing			
c **dimensions and weights:**	**Pulsar ESV 8+**		**Pulsar ESV 11+ / 14+ / 22+ / EB 22 / EB 22XLA**	
v height H (mm): 	178		248	
v width W (mm):	140		172	
v depth D (mm):	380		457	
v weight (kg) :	13.5		21/23/16/20/35	

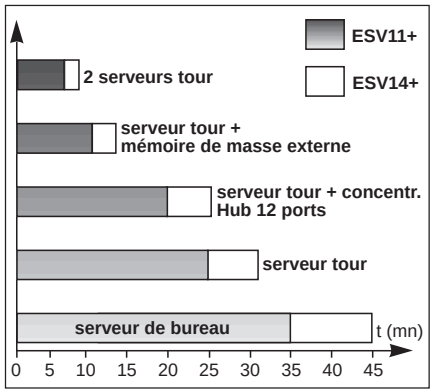
(*): adjustable high and low thresholds using ESV Driver (CD-ROM: EMB/ESVPLUS/CONFIG)
(**): can be adjusted from 200 to 240V using ESV Driver (CD-ROM: EMB/ESVPLUS/CONFIG)

caractéristiques (suite)

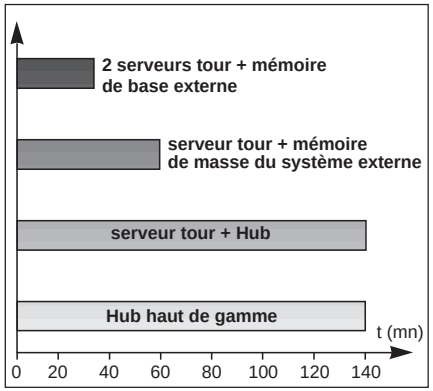
Autonomie batterie de Pulsar ESV 8+


2 serveurs de bureau
serveur tour + concentrateur Hub 12 ports
4 concentrateurs Hub empilés
serveur tour
serveur de bureau
t (mn)
0 5 10 15 20 25

Autonomie batterie de Pulsar ESV 11+/14+

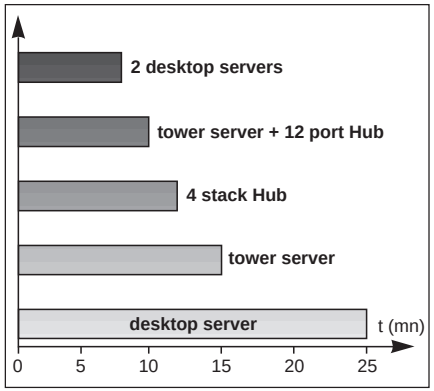

ESV11+
ESV14+
2 serveurs tour
serveur tour + mémoire de masse externe
serveur tour + concentr. Hub 12 ports
serveur tour
serveur de bureau
t (mn)
0 5 10 15 20 25 30 35 40 45

Autonomie batterie de Pulsar ESV 22+

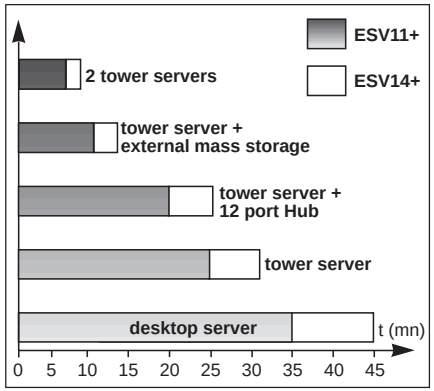

2 serveurs tour + mémoire de base externe
serveur tour + mémoire de masse du système externe
serveur tour + Hub
Hub haut de gamme
t (mn)
0 20 40 60 80 100 120 140

technical data (continued)

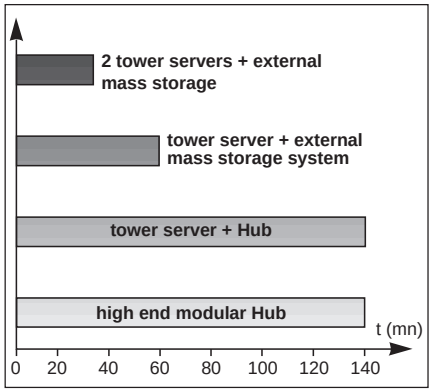
Pulsar ESV 8+ battery back-up time



Pulsar ESV 11+/14+ battery back-up time



Pulsar ESV 22+ battery back-up time


2 tower servers + external mass storage
tower server + external mass storage system
tower server + Hub
high end modular Hub
t (mn)
0 20 40 60 80 100 120 140

contents

presentation **20**
benefits **20**
options **20**

getting started **21**
installation **21**
preliminary checks **21**
connections **21**
c power connections **21**
c serial connections **21**
c computer network protection **21**
communication **22**

operation **23**
starting up with utility power present **23**
starting up without utility power **24**
normal operation **25**
operation with battery back up time **26**
overload **27**
operating anomalies **27**
battery replacement **28**

presentation of Pulsar

benefits

Network servers and data are very sensitive to electrical disturbances of all types including outages, brownout, voltage sags, interference, etc. The origins of disturbances also vary, ranging from atmospheric phenomena such as lightning or frost, to near-by devices generating interference such as elevators, copiers and machine-tools, not to mention human errors such as the accidental pulling out of power cords or tripping of circuit breakers. The consequences of disturbances on computer systems range from damage to hardware (power supplies, hard disks) to the loss of data.

Pulsar ESV+ has been specially designed to protect network servers and all other interconnection devices that are sensitive to electrical disturbances. **Pulsar ESV+** adds fault-tolerance to the power source supplying your server.

Pulsar ESV+ is designed as a compact unit and performs with a great silent operation mode. It may be installed on the desk without any loose of room. It may be also installed in a rack (see further).

Due to its backup battery, **Pulsar ESV+** protects your system for several minutes (see the "characteristics" section) in the event of a power failure. A built-in filtering system protects your application from line interference. Finally, to counter voltage sags or spikes, **Pulsar ESV+** uses voltage compensation circuits ("booster" and "fader" modes) to guarantee a stable supply of clean power.

As standard, **Pulsar ESV+** offers the PowerShare function that was until now reserved for large UPSs. Power outputs may be remotely controlled, thus making possible sequential start-ups of the different elements of the application, selective load shedding in the event of an overload and priority management at the end of battery autonomy to protect the most sensitive load.

Pulsar ESV+ offers a number of functions and characteristics intended to simplify power management:

- automatic battery test carried out periodically. In the event of a fault, a LED provides enough advance warning for battery replacement;
- LEDs on the front signalling all types of faults and alarms;
- bargraph continuously indicating the battery charge level or the computer-application load level;
- environment friendly: all components are recyclable and an electronic power-saver device reduces consumption if the UPS is not active for a period exceeding five minutes;
- **Pulsar ESV+** incluses user-replaceable batteries, no need to power off connected equipments to replace them;
- ESV Driver software is part of our CD-ROM **(*)**. It lets you edit the default parameters of **Pulsar** to ideally match your requirements;
- **Pusar ESV+** is Plug and Play: its installation on Windows 95 is fully automatic;
- advanced operation and monitoring of **Pulsar** are achieved by means of the Solution-Pac CD-ROM included in your package. To know more about all the advanced features offered (system shutdown, remote monitoring, SNMP administration,…) please view the navigator tool of the CD-ROM;
- fax/modem/Internet protection is built-in to ensure safe data transmission.

options

- **warranty extension up to four years:** the standard two-year guarantee may, in certain countries, be extended to four years to ensure total peace of mind;
- **FT additional outlet block:** if you wish to connect more than four devices to the **Pulsar ESV** or if your devices are not equipped with the standard EEC plug, the FT connector offers four additional sockets (three for UK type plugs);
- **battery extension module: Pulsar EB 22XLA** battery extension modules lengthen the battery backup time of **Pulsar ESV 22+** to meet your requirements;
- **rack installation kit:** this kit is used to install **Pulsar ESV** in a 19-inch rack. The kit is performed to receive two **Pulsar ESV+**, offering therefore up to 2800VA of power supply;
- **UM Sensor environment measurement unit:** compatible with SNMP, this unit measures the temperature and the relative humidity in the room where the **Pulsar ESV+** is installed. Eight relay contacts are provided to transmit signals to an administration platform.
- **SNMP administration:** MGE UPS SYSTEMS has the most complete offering for the administration of a group of UPSs using the SNMP protocol with different network-connection modules (UM Link adaptor or proxy UM Agent software), supervision modules (dedicated software under Windows UM View or application for NMS platforms such as HP OpenView or Novell NMS) and a file-closing module (UM Client). The MGE UPS SYSTEMS offering complies with RFC 1628 specifications (IETF) and was certified by the InterWorking Labs during the Test Summit in June 1994;
- **SNMP card:** this card, inserted into your unit, makes your UPS SNMP-compatible in any environment;
- **status information card:** this option provides you with 3 data elements on volt free contact: operating on battery, low battery warning, operating on utility power.

Contact your dealer for further information on these options.

(*) CD-ROM : EMB/ESVPLUS/CONFIG

getting started

location

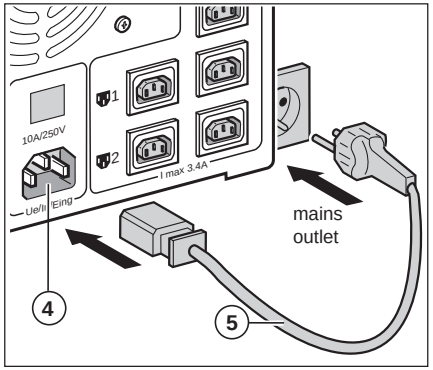
c observe the safety rules indicated at the beginning of this document.

preliminary checks

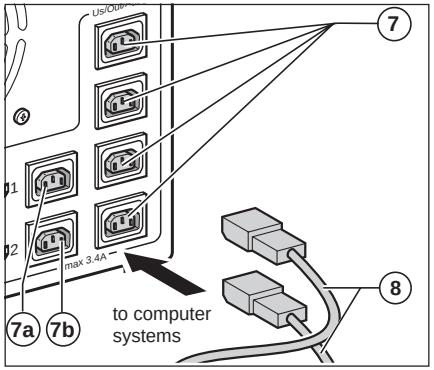
c check that button (3) " ⏽ " on the front is not pushed in;
c check that rating shown on identification plate (10) corresponds to the input voltage specification and power requirement of the load.

connections

c **power connections:**
v **Pulsar ESV 22+** only: connect battery connection cord (19) to **Pulsar ESV 22+** and connect to **Pulsar EB22**,
v use the computer cord to supply input power to **Pulsar** as shown.



Connect the computer cord (5) between the UPS mains input receptacle (4), and a nearby mains outlet,
v use included EEC cords (8) to connect the computer loads to output sockets (7), (7a) and (7b).

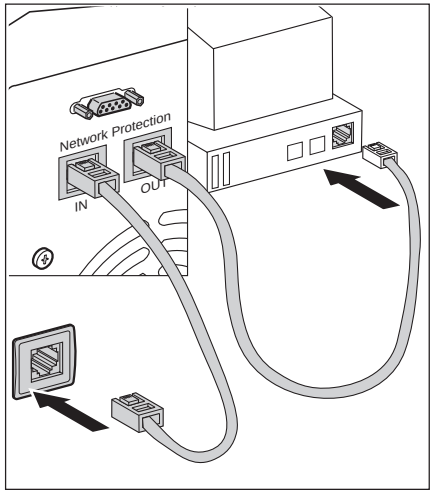


Note 1:
Following connection, the battery automatically charges, whatever the position of the ON/OFF button (3) " ⏽ " .

Note 2:
The batteries will provide full back-up time after approximatively 8 hours of recharge time.

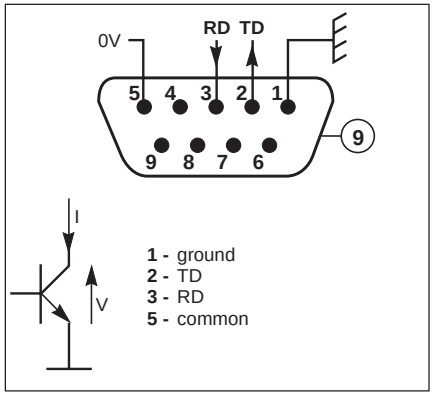
Note 3:
The rating of input power cord must be not less than the nominal input rating of **Pulsar**.
Pulsar ESV+: 230V - 10A.

c **serial connections:**
If you wish to use the functions of the CD-ROM supplied with your **Pulsar**, connect the lead (14) to the communication port (9). Connect the other end to a serial port of a computer system.
c **computer network protection:**
If you wish to use the network line filtering functions (Ethernet for example), use a cable of the RJ45 type. Connect the "IN" output to the network and use another cable to connect the "OUT" output to the protected computer system.



communication

The communication port (9), at the rear of **Pulsar**, delivers information in the form of an RS232 series link supported by the communication protocol exclusive to MGE UPS SYSTEMS. The Solution-Pac programs use the data made available by this protocol.



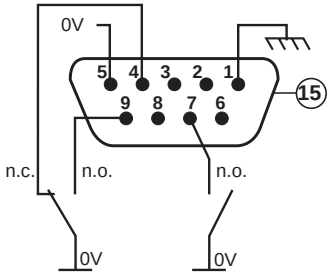
ESV Driver software (included in the CD-ROM: EMB/ESVPLUS/CONFIG) lets you edit the default parameter of **Pulsar**:

c battery test frequency
(default: every week);
c nominal output voltage
(default: 230 Volts);
c high/low voltage thresholds
(defaut: 264/184 Volts);
c Fader/Booster activation thresholds
(defaut : 248/204 Volts);
c on/off conditions:
v automatic restart,
v forced reboot,
v energy saving,
v cold start.

option 1

c **status information card:** after the card is installed in the rear of the **Pulsar**, communication port (15) transmits status information on a SUB-D 9-pin female connector using the following pinouts:

1 - ground,
4 - normal operation,
5 - common,
7 - low battery warning,
9 - operation on battery.



Relay breaking capacity:
Vmax = 25V DC, Imax = 10mA
n.o. : normally open,
n.c. : normally closed.

option 2

c **SNMP card:** after the card is installed in the rear of the **Pulsar**, communication port (15) transmits information supported by the SNMP protocol on an RJ45 or BNC connector.

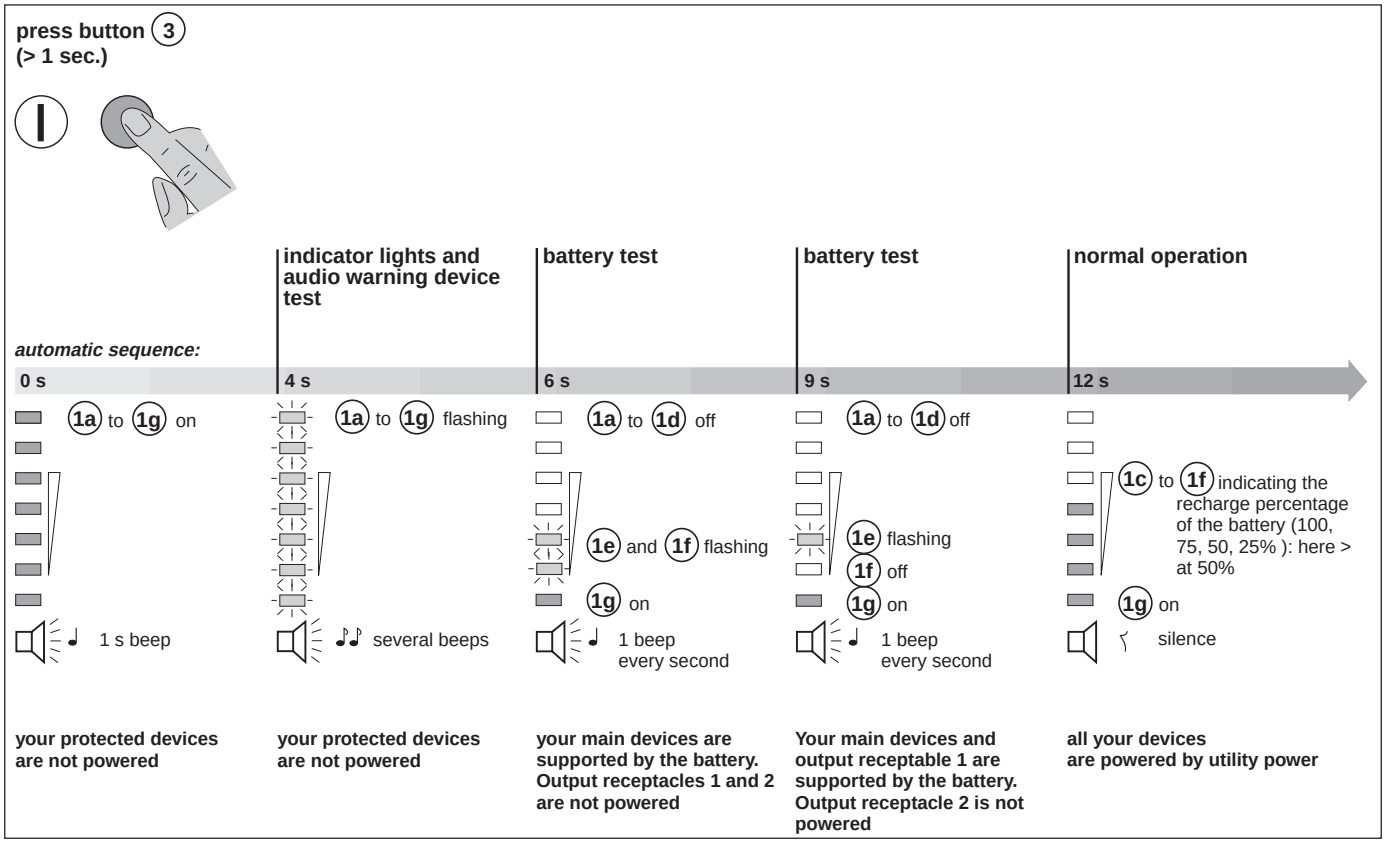
option 3

c **battery extension module Pulsar EB 22XLA** (for **Pulsar ESV 22+**):
Switch off **Pulsar ESV 22+** (push button (3)), disconnect the input connection cord (5). Connect battery connection cord (19) (included with **Pulsar EB 22XLA**) to **Pulsar EB 22** and connect to **Pulsar EB 22XLA**. You can connect 7 **Pulsar EB 22XLA** in parallel.

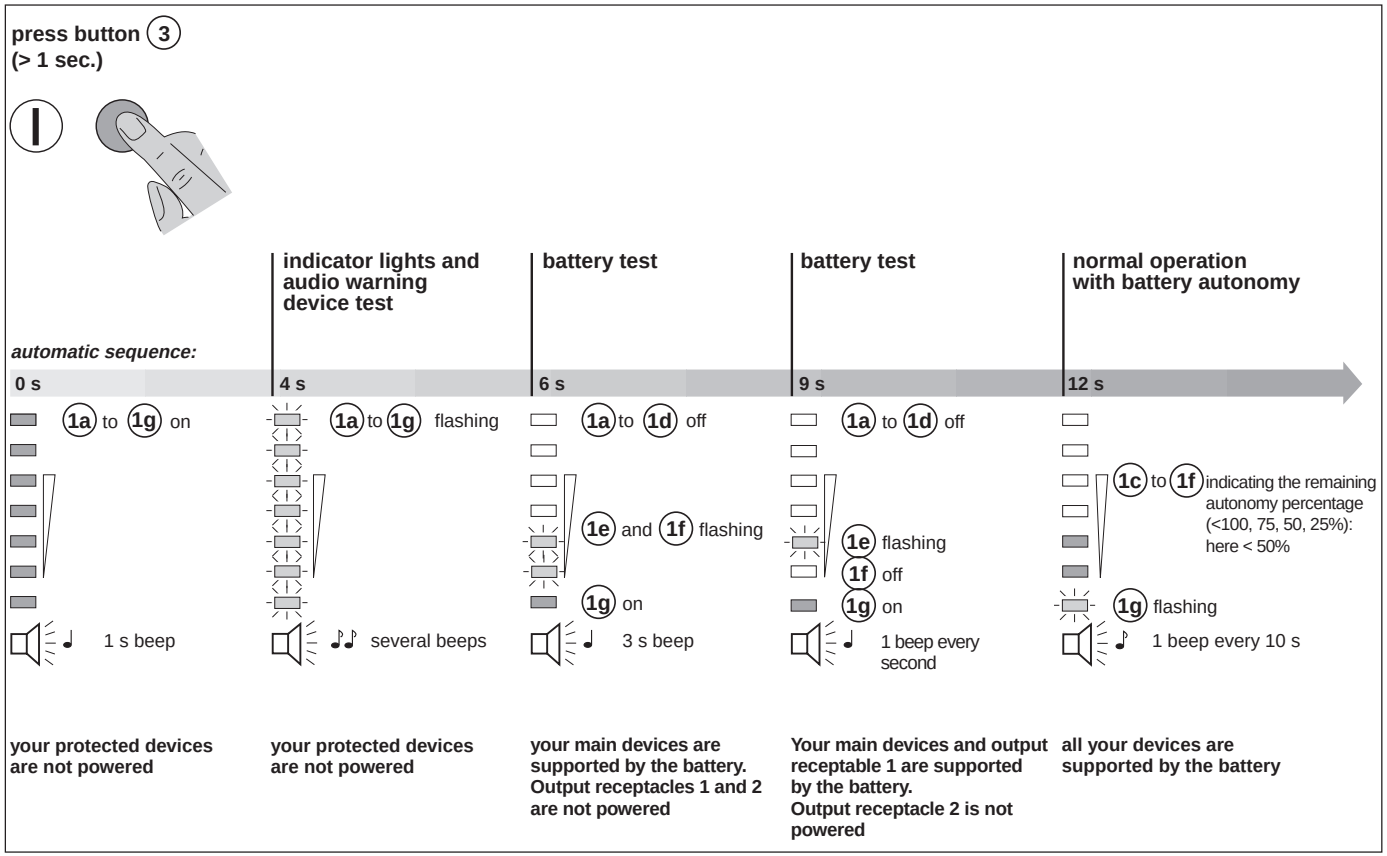
Contact your retailer for further details.

operation

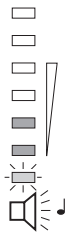
starting up with utility power present


press button 3
(> 1 sec.)
automatic sequence:
0 s
4 s
6 s
9 s
12 s
indicator lights and audio warning device test
battery test
battery test
normal operation
1a to 1g on
1 s beep
1a to 1g flashing
several beeps
1a to 1d off
1e and 1f flashing
1g on
1 beep every second
1a to 1d off
1e flashing
1f off
1g on
1 beep every second
1c to 1f indicating the recharge percentage of the battery (100, 75, 50, 25%): here > at 50%
1g on
silence
your protected devices are not powered
your protected devices are not powered
your main devices are supported by the battery. Output receptacles 1 and 2 are not powered
Your main devices and output receptable 1 are supported by the battery. Output receptacle 2 is not powered
all your devices are powered by utility power

starting up without utility power


press button 3
(> 1 sec.)
automatic sequence:
0 s
4 s
6 s
9 s
12 s
indicator lights and audio warning device test
battery test
battery test
normal operation with battery autonomy
1a to 1g on
1 s beep
1a to 1g flashing
several beeps
1a to 1d off
1e and 1f flashing
1g on
3 s beep
1a to 1d off
1e flashing
1f off
1g on
1 beep every second
1c to 1f indicating the remaining autonomy percentage (<100, 75, 50, 25%): here < 50%
1g flashing
1 beep every 10 s
your protected devices are not powered
your protected devices are not powered
your main devices are supported by the battery. Output receptacles 1 and 2 are not powered
Your main devices and output receptable 1 are supported by the battery. Output receptacle 2 is not powered
all your devices are supported by the battery

normal operation
without utility power



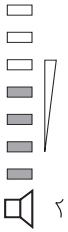
1c to 1f indicating the remaining autonomy percentage (< 100, 75, 50, 25%): here < 50%

1g flashing

1 beep every 10 s

your devices are powered by the battery

with utility power



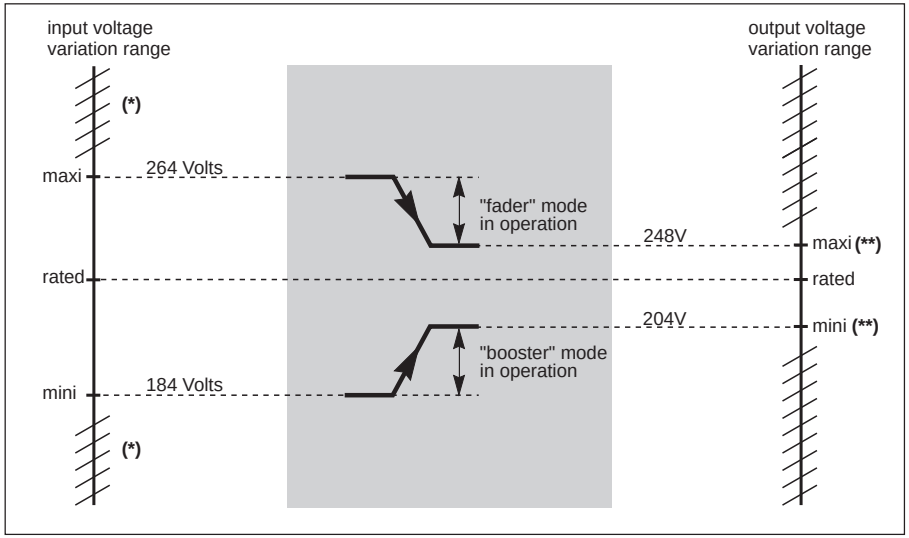
1c to 1f indicating the recharge percentage of the battery (< 100, 75, 50, 25%): here > 50%

1f on

silence

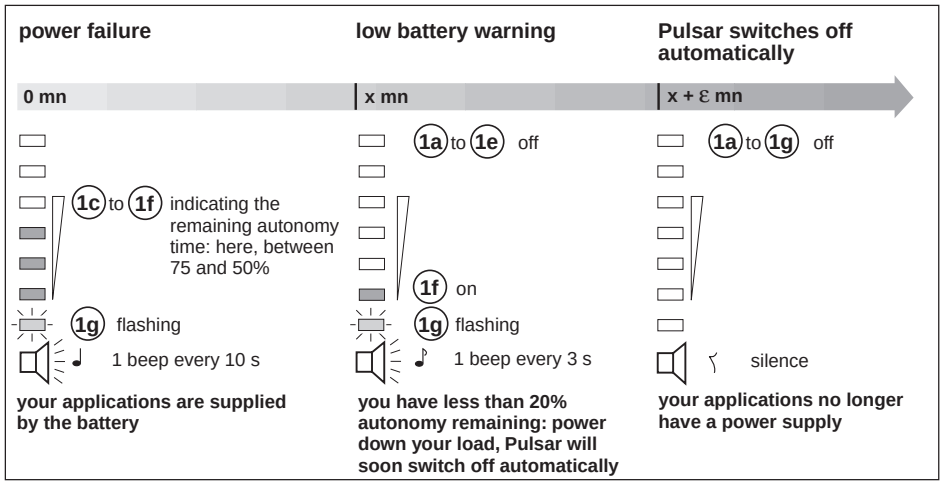
your devices are powered by the utility power

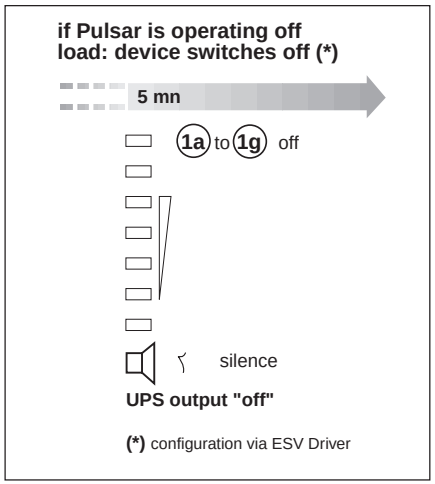
c the "fader" and "booster" functions are used to keep the output voltage range (Umax-Umin) compatible with the supply operating range of your application;
c this operating range can be configured via the "ESV Driver" software (included in your CD-ROM);
c on operation in the "fader" or "booster" range, the indicator light 1d comes flashing.



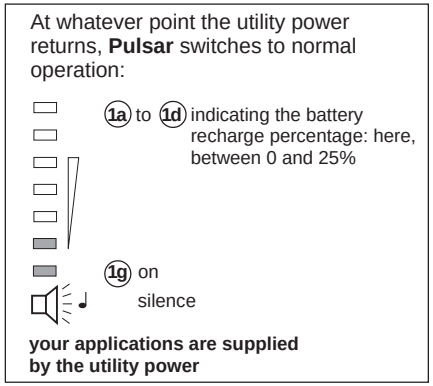
(*) outside the min.-max. range indicated, **Pulsar** runs in battery backup
(**) standard setting

operation with battery back up time
no utility power


power failure
low battery warning
Pulsar switches off automatically
0 mn
x mn
x + ε mn
1a to 1e off
1a to 1g off
1c to 1f indicating the remaining autonomy time: here, between 75 and 50%
1f on
1g flashing
1g flashing
1 beep every 10 s
1 beep every 3 s
silence
your applications are supplied by the battery
you have less than 20% autonomy remaining: power down your load, Pulsar will soon switch off automatically
your applications no longer have a power supply

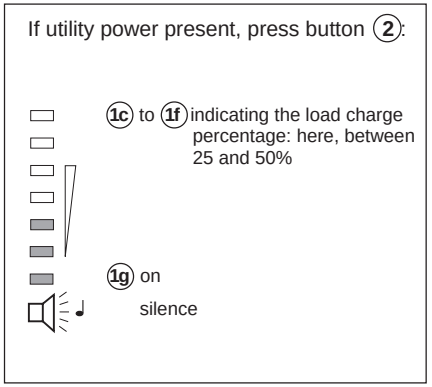


return of utility power


At whatever point the utility power returns, Pulsar switches to normal operation:
1a to 1d indicating the battery recharge percentage: here, between 0 and 25%
1g on
silence
your applications are supplied by the utility power

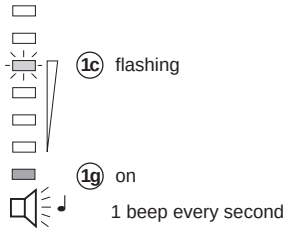
NB:
Button (2) is to deactivate or activate the audio warning device when operating on battery.

load charge percentage


If utility power present, press button (2):
1c to 1f indicating the load charge percentage: here, between 25 and 50%
1g on
silence

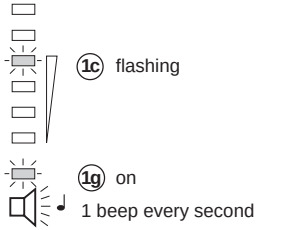
overload

utility power present



Pulsar switches off automatically after operating in overload for approximately 5 min.

no utility power present

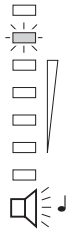


Pulsar switches off automatically after a length of time which depends on the level of overload.

NB:
Overload occurs if the load consumption of the applications connected is greater than the rated power of **Pulsar**.
To acknowledge the fault, push button (3), temporarily disconnected **Pulsar** from the wall socket (flex (5)), disconnect non-priority applications and re-start **Pulsar**.

operating anomalies

device fault



v switch off **Pulsar** (push button (3)), disconnect from the wall socket (flex (5)), and check that **Pulsar** has not short-circuited (disconnect all applications),
v check the input fuse (6b) and replace it with a fuse of the same rating or reset thermal breaker (6),
v re-start **Pulsar**.

utility power outside limits

after the start-up sequence, if the audio warning device sounds continuously, **check the voltage and frequency of your utility power** (see the § entitled "characteristics") **and/or recharge your battery for 8 hours.**

battery fault

A battery test is carried out while **Pulsar**, is in start-up phase, then automatically every 7 days (overhaul times adjustable using ESV Driver).
If a battery fault is detected, the following occurs:

recharge your battery for 8 hours.
If battery fault persists, see next page.

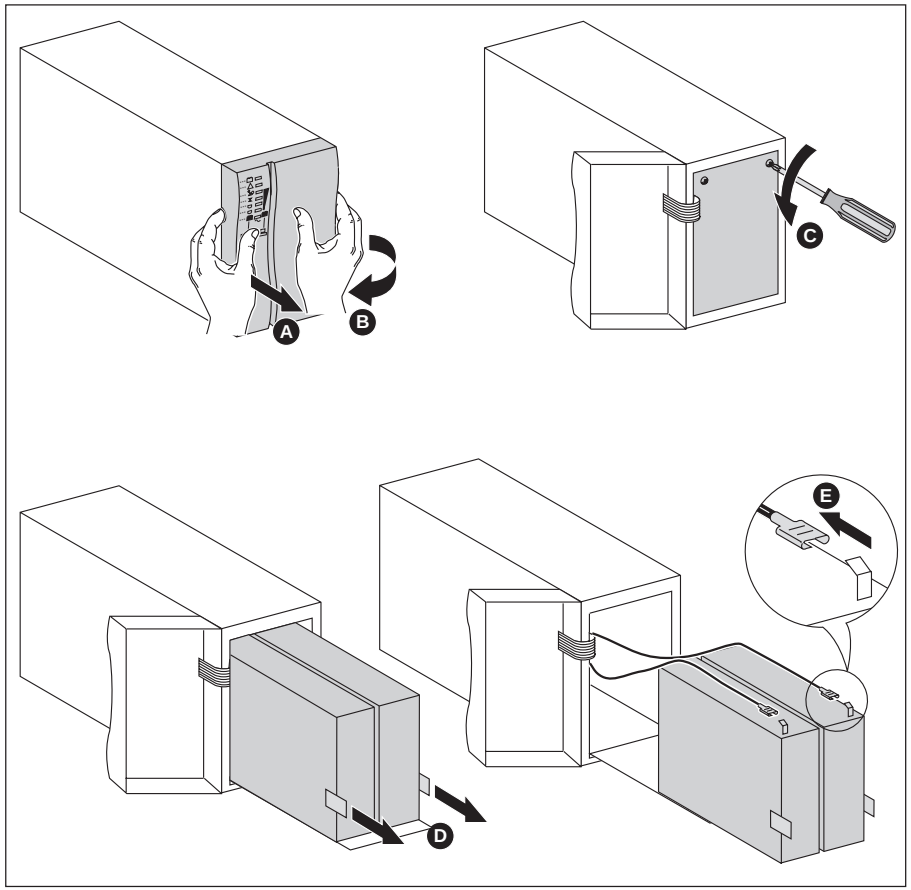
Start/Stop control on onput receptacles 1 and 2 (PowerShare)

You can use the applications included on the CD-ROM to remote control the Start/Stop sequences on output receptacles (7a) (or (7b)) is stopped, front panel led (1f) (or (1e)) flashes, with 1 beep every second, beep can be deactivated by "function" button (2).

NB:
If the previous symptoms persist, contact our after sales department.

battery replacement

c see important battery safety rules (see page i);
c batteries can be replaced without risk, but don't hesitate to contact our after sales department to confirm batteries failure, and to give you further informations;
c battery replacement can be performed UPS on utility power, but we recommend you to switch off the unit in order to avoid any data loss;
c grasp the top of the front panel and pull it down (see drawings);
c fold front panel on the side or on top on of the UPS, be careful not to damage the ribbon cable from the UPS;
c use a screwdriver to remove screws on metal front panel;
c pull out battery block using tapes on the sides;
c disconnect battery wires red (+) and black (-) coming from the UPS on battery terminals;
c replace all battery block with new batteries, same voltage and same rating (Volts, Ah), then connect battery wires again (sparks may happen during connection);
c push battery block in its location, screw metal front panel, then click plastic front panel.



MGE UPS SYSTEMS SA
7, Chemin du vieux chêne
ZIRST 4202
38942 Meylan Cedex
FRANCE

MGE UPS SYSTEMS S.A. designs, manufactures and markets Merlin Gerin brand UPSs.

51032616XT/AA

Austria : 0660 6215
Belgium : 0800 7 2189
China/Hong Kong :
(852) 2 811 2399
Denmark : 8001 0137
France : 0800 33 68 58
Germany : 0130 81 9431
Italy : 1678 700 98
Netherlands : 06022 3057
North America : 1 800 438 7373

Internet : www.mgeups.com

Norway : 800 11 221
United Kingdom : 0800 96 8558
South-East Asia (Singapore) :
(65) 288 43 23
Spain : 900 99 3384
Sweden : 020 795 475
Switzerland : 155 1107
Other countries :
(33) (0)4 76 33 91 36

As standard, specifications and designs change from time to time, please ask for confirmation of the information given in this publication.

Product names mentioned herein may be trademarks and registred trademarks of their respective companies.

Published by MGE UPS SYSTEMS - 05/97

Réalisation : AMEG 04 76 70 05 55